

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

4

Applicant's or agent's file reference O 1 P 24 WO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP00/06174	International filing date (day/month/year) 03 July 2000 (03.07.00)	Priority date (day/month/year) 17 September 1999 (17.09.99)
International Patent Classification (IPC) or national classification and IPC C01F 7/44,		
Applicant OUTOKUMPU OYJ		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of _____ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 19 January 2001 (19.01.01)	Date of completion of this report 11 December 2001 (11.12.2001)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP00/06174

I. Basis of the report

1. This report has been drawn on the basis of (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

- ☒ the international application as originally filed.
- ☒ the description, pages 1-7, as originally filed,
 pages _____, filed with the demand,
 pages _____, filed with the letter of _____,
 pages _____, filed with the letter of _____.
- ☒ the claims, Nos. 1-5, as originally filed,
 Nos. _____, as amended under Article 19,
 Nos. _____, filed with the demand,
 Nos. _____, filed with the letter of _____,
 Nos. _____, filed with the letter of _____.
- ☒ the drawings, sheets/fig 1/1, as originally filed,
 sheets/fig _____, filed with the demand,
 sheets/fig _____, filed with the letter of _____,
 sheets/fig _____, filed with the letter of _____.

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

4. Additional observations, if necessary:

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims		YES
	Claims	1-3	NO
Inventive step (IS)	Claims	4, 5	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-5	YES
	Claims		NO

2. Citations and explanations

Reference is made to the following documents:

- D1: US-A-5 616 303, WYSK S RONALD ET AL., 1 April 1997 (1997-04-01), cited in the application
- D2: DE 195 42 309 A, METALLGESELLSCHAFT AG, 15 May 1997 (1997-05-15), cited in the application
- D3: GB-A-2 019 369, SMIDTH & CO AS F L, 31 October 1979 (1979-10-31), cited in the application
- D4: DATABASE WPI Section Ch, Week 199424, Derwent Publications Ltd, London, GB; Class J09, AN 1994-198367 XP002152134 & SU 1 806 309 A, PRIMORSK BOR PRODN ASSOC, 30 March 1993 (1993-03-30).

Claim 1 should be treated as a device (*per se*) claim, regardless of the reaction implemented therein.

In view of the problem addressed (namely that the structural height of plant be kept as low as possible) - see page 2, paragraph 2 - and since horizontal "cyclone reactors" are already known (for example from D1 and D4), there is at present no clear structural delimitation has been given in relation to known horizontal cyclone reactors. Such delimitation first appears in Claims 4 and 5 and gives rise to advantages over similar known devices.